TABLE 1-B
DEP SC SUPPLEMENTAL PORTFOLIOS MODELING RESULTS

	Duke Energy Progress																	
Pathway	**A1**		**A2**		**B1**		**B2**		**C1**		**C2**		**D1**		**E1**		**F1**	
System CO_2 Reduction (2030 | 2035)[1]	56%	53%	57%	54%	59%	64%	61%	65%	66%	66%	66%	67%	73%	75%	73%	75%	67%	75%
Present Value Revenue Requirement (PVRR) [$B][2]	$35.0		$35.3		$35.1		$35.4		$36.3		$36.3		$45.4		$42.8		$52.6	
Average Monthly Residential Bill Impact for a Household Using 1000kWh (by 2030 | by 2035)[3]	$13	$21	$13	$22	$11	$23	$12	$24	$15	$23	$14	$23	$33	$40	$29	$37	$51	$58
Average Annual Percentage Change in Residential Bills (through 2030 | through 2035)[3]	1.1%	1.2%	1.2%	1.2%	1.1%	1.3%	1.1%	1.3%	1.3%	1.3%	1.3%	1.3%	2.8%	2.2%	2.5%	2.0%	4.1%	2.9%
Total System Solar [MW][4, 5] by 2035	5,250		4,950		7,250		7,350		7,350		7,350		9,600		9,600		9,600	
Incremental Onshore Wind [MW][4] by 2035	0		0		900		900		750		750		1,600		1,600		1,600	
Incremental Offshore Wind [MW][4] by 2035	0		0		0		0		0		0		1,300		100		2,500	
Incremental SMR Capacity [MW][4] by 2035	0		0		0		0		0		0		0		700		0	
Incremental Storage [MW][4, 6] by 2035	200		1,250		1,350		1,900		1,400		1,850		1,950		1,950		4,950	
Incremental Gas [MW][4] by 2035	5,350		4,400		4,400		3,950		4,400		3,950		2,150		2,150		0	
Total Contribution from Energy Efficiency and Demand Response Initiatives [MW][7] by 2035	825		825		825		825		825		825		1,500		1,500		1,500	
Remaining Coal Capacity [MW][4] by 2035	0		0		0		0		0		0		0		0		0	
Coal Retirements	Most Economic		Most Economic		Most Economic		Most Economic		Earliest Practicable		Earliest Practicable		Earliest Practicable[8]		Earliest Practicable[8]		Most Economic[9]	
Dependency on Technology & Policy Advancement	◔		◑		◔		◑		◑		◕		◕		●		●	

[1]Combined DEC/DEP System CO_2 Reductions from 2005 baseline in Duke's Base Gas Assumption

[2]PVRRs exclude the cost of CO_2 as tax. PVRR results reflect Duke's Base Gas and Battery Cost Assumptions

[3]Represents specific IRP portfolio's incremental costs included in IRP analysis; does not include complete costs for other initiatives that are constant throughout the IRP or that may be pending before state commissions

[4]All capacities are Total/Incremental nameplate capacity within the IRP planning horizon

[5]Total solar nameplate capacity includes 2,950 MW connected in DEP as of year-end 2020 (projected)

[6]Includes 4-hr and 6-hr grid-tied storage and storage at solar plus storage sites

[7]Contribution of EE/DR (including Integrated Volt-Var Control (IVVC) and Distribution System Demand Response (DSDR)) in 2035 to peak winter planning hour

[8]Earliest Practicable retirement dates with delaying Roxboro 1&2 to EOY 2029 for integration of offshore wind/SMR by 2030

[9]Most Economic retirement dates with delaying Roxboro 1&2 to EOY 2029 for integration of offshore wind by 2030

Legend:

○ Not Dependent
◔ Slightly Dependent
◑ Moderately Dependent
◕ Mostly Dependent
● Completely Dependent

Corrected 10.12.2021

TABLE 1-C
DEC/DEP COMBINED SUPPLEMENTAL PORTFOLIOS MODELING RESULTS

	DEP/DEC Combined System																	
Pathway	**A1**		**A2**		**B1**		**B2**		**C1**		**C2**		**D1**		**E1**		**F1**	
System CO_2 Reduction (2030 | 2035)[1]	56%	53%	57%	54%	59%	64%	61%	65%	66%	66%	66%	67%	73%	75%	73%	75%	67%	75%
Present Value Revenue Requirement (PVRR) [$B][2]	$78.6		$78.8		$81.6		$82.4		$83.2		$83.8		$100.2		$95.2		$107.2	
Total System Solar [MW][3, 4] by 2035	10,500		10,350		15,100		15,600		15,550		15,600		18,350		18,350		18,350	
Incremental Onshore Wind [MW][3] by 2035	0		0		1,500		1,500		1,350		1,500		2,850		2,850		2,850	
Incremental Offshore Wind [MW][3] by 2035	0		0		0		0		0		0		2,650		250		2,650	
Incremental SMR Capacity [MW][3] by 2035	0		0		0		0		0		0		0		1,350		700	
Incremental Storage [MW][3, 5] by 2035	600		1,600		1,900		3,400		2,000		3,400		4,350		4,350		7,350	
Incremental Gas [MW][3] by 2035	8,850		7,950		7,500		6,100		9,600		8,250		6,400		6,100		0	
Total Contribution from Energy Efficiency and Demand Response Initiatives [MW][6] by 2035	2,050		2,050		2,050		2,050		2,050		2,050		3,350		3,350		3,350	
Remaining Dual Fuel Coal Capacity [MW][3, 7] by 2035	3,050		3,050		3,050		3,050		0		0		0		0		2,200	
Coal Retirements	Most Economic		Most Economic		Most Economic		Most Economic		Earliest Practicable		Earliest Practicable		Earliest Practicable[8]		Earliest Practicable[8]		Most Economic[9]	
Dependency on Technology & Policy Advancement	◔		◑		◔		◑		◑		◕		◕		●		●	

[1]Combined DEC/DEP System CO_2 Reductions from 2005 baseline in Duke's Base Gas Assumption

[2]PVRRs exclude the cost of CO_2 as tax. PVRR results reflect Duke's Base Gas and Battery Cost Assumptions

[3]All capacities are Total/Incremental nameplate capacity within the IRP planning horizon

[4]Total solar nameplate capacity includes 3,925 MW connected in DEC and DEP combined as of year-end 2020 (projected)

[5]Includes 4-hr and 6-hr grid-tied storage, storage at solar plus storage sites, and pumped storage hydro

[6]Contribution of EE/DR (including Integrated Volt-Var Control (IVVC) and Distribution System Demand Response (DSDR)) in 2035 to peak winter planning hour

[7]Remaining coal units are capable of co-firing on natural gas

[8]Earliest Practicable retirement dates with delaying one (1) Belews Creek unit and Roxboro 1&2 to EOY 2029 for integration of offshore wind/SMR by 2030

[9]Most Economic retirement dates with delaying Roxboro 1&2 to EOY 2029 for integration of offshore wind by 2030

Legend:
- ○ Not Dependent
- ◔ Slightly Dependent
- ◑ Moderately Dependent
- ◕ Mostly Dependent
- ● Completely Dependent

expected to serve a critical role, enabling economic coal retirements while maintaining system reliability, with a gradual shift in mission over the long term, towards ultimately backstanding renewables and storage.

Figures 1-B and 1-C below show the transition from the 2021 generation resource mix to the 2035 resource mix under Portfolio C1 for DEP and the DEC/DEP Combined System.

FIGURE 1-B
DEP 2021 CAPACITY TO 2035 CAPACITY UNDER PORTFOLIO C1

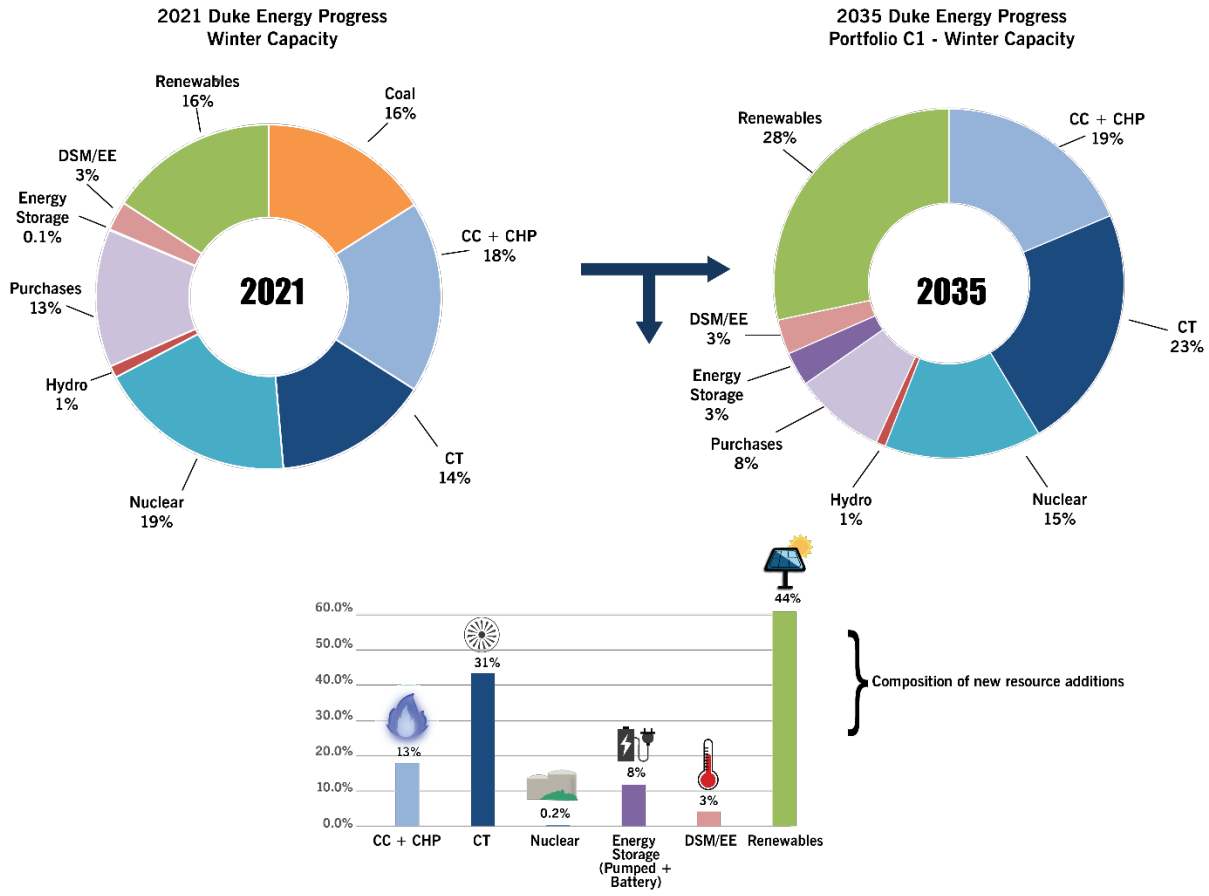
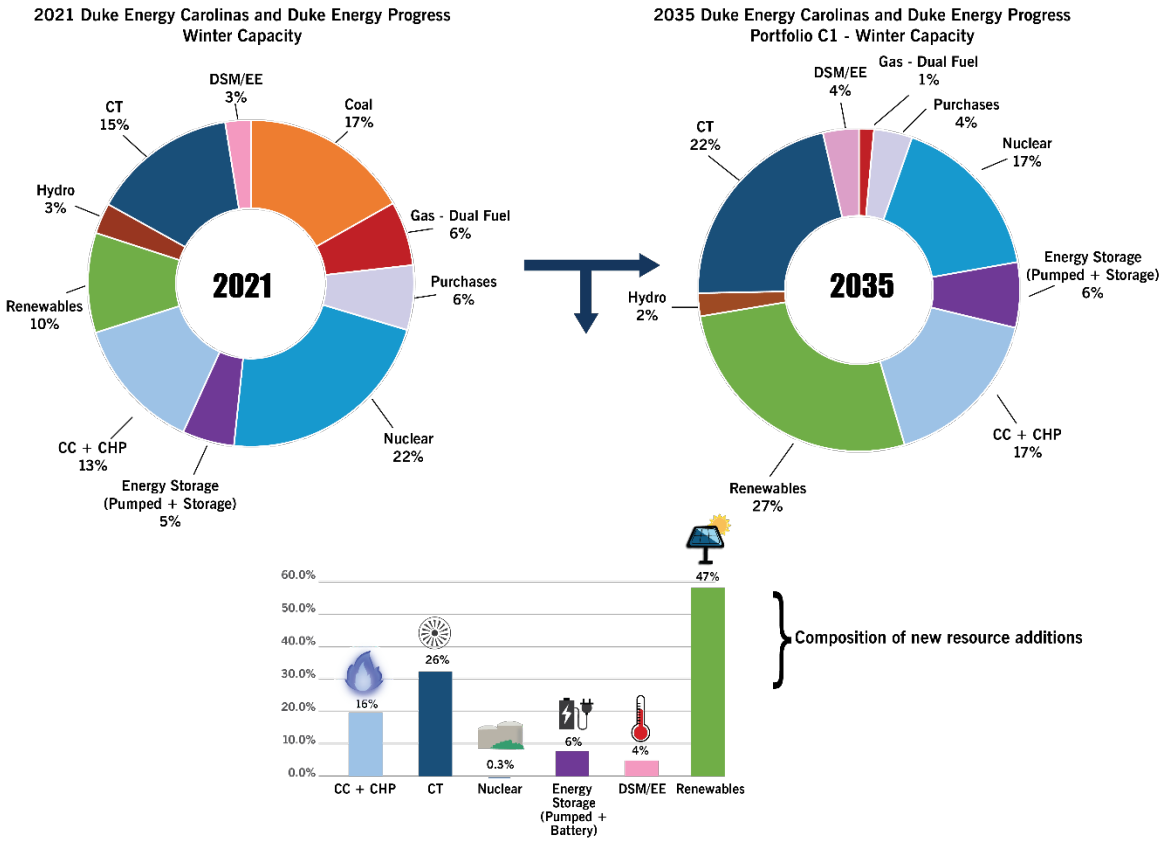


FIGURE 1-C
DEC/DEP COMBINED SYSTEM 2021 CAPACITY TO 2035 CAPACITY UNDER PORTFOLIO C1



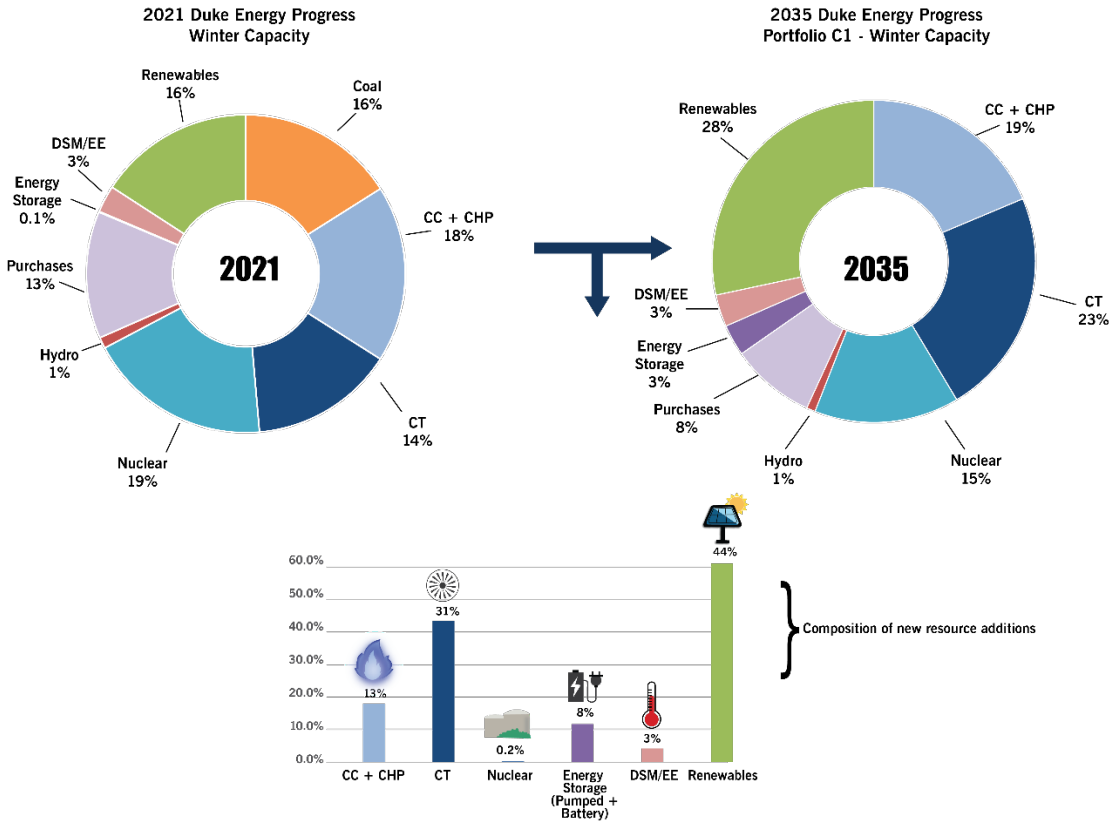
SIGNIFICANT CARBON REDUCTIONS BY 2030 USING PROVEN AND ECONOMIC GENERATION RESOURCES

Portfolio C1 contemplates the most significant, immediate, and cost-effective reduction in carbon when comparing the portfolios dependent on technology that is currently viable and economic today. Figure 1-D illustrates the carbon reduction achieved by each of the SC Supplemental Portfolios.

The following figures illustrate both the current and forecasted capacity for the DEP system, as projected by Portfolio C1. Figure 3-R depicts how the capacity mix for the DEP system changes with the passage of time. In 2035, Portfolio C1 projects that DEP will have a substantial reduction in its reliance on coal units and a significantly higher reliance on renewable resources as compared to the current state. It is of particular note that over 50% of the new resources added over the study period are solar, wind and storage resources.

As mentioned above, the resources in Portfolio C1 are depicted in Figure 3-R below reflects a significant amount of growth in solar capacity with nameplate solar growing from 2,888 MW in 2021 to 6,661 MW by 2035.

FIGURE 3-R
PORTFOLIO C1 – DEP CAPACITY CHANGES OVER 15 YEAR PLANNING HORIZON[3]



[3] All capacity based on winter ratings except Renewables and Energy Storage which are based on nameplate.